Monthly Report of the Operations & Maintenance Activities

Claremont Polychemical Operable Unit 5

Groundwater Treatment System

Old Bethpage, New York
August 2019

NYSDEC Standby Engineering Contract
Work Assignment #D0076025-28

Prepared for
NYS Department of Environmental Conservation
625 Broadway
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NEW YORK STATE OF OPPORTUNITY
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Contents

Tables

Figures

ACRONYMS AND ABBREVIATIONS

AS	air stripper
ASF	air stripper feed
BSP	Bethpage State Park (Black Golf Course)
CPC	Claremont Polychemical
CSE	confined space entry
DOSR	daily operations summary report
DTB	depth to bottom
DTW	depth to water
EFF	effluent
EON	EON Products, Inc.
ESS	Environmental Sampling Supply
Fed Ex	Federal Express
GPD	gallons per day
GPM	gallons per minute
GW	groundwater
GWTS	groundwater extraction, treatment, and reinjection system
HCl	hydrochloric acid
HDR	Henningson, Durham & Richardson Architecture and Engineering, P.C.
HHL	High-high level
INF	influent
LOTO	Lock-out, tag-out
MW	monitoring well
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
OBL	Old Bethpage Landfill
OU4	Operable Unit 4
OU5	Operable Unit 5
PDB	Passive Diffusion Bags
PD	plant discharge
PFOA	Perfluorooctanoic Acid and related perfluorinated alkyl substances
PFOS	Perfluorooctanesulfonic Acid
PID	photo ionization detector
PSEG	Public Service Enterprise Group, electrical power supplier
PW	process water
RAP	Remedial Action Plan
RW	Recovery well, process well
SOP	standard operating procedure
SSHP	site safety and health plan
SU	standard pH units
TA	TestAmerica Laboratory
TOB	Town of Oyster Bay
TOBAY	Town of Oyster Bay
UPS	United Parcel Service
VAC	Vapor phase activated carbon
VOCs	volatile organic compounds

1 OPERATION AND MAINTENANCE ACTIVITIES

Henningson, Durham & Richardson Architecture and Engineering, P.C. (HDR) continued the daily operation and maintenance (O&M) of the Claremont Polychemical Superfund Site Groundwater Treatment System (GWTS) Operable Unit 5 (OU-5) during the month of August. This report covers the operation and maintenance activities for the system during the period defined as beginning at 0730 hours, August 1, 2019 through 0730 hours, September 1, 2019. O&M conducted during this reporting period was guided by the site O&M Manual.

The GWTS – treatment plant, grounds, and well systems - were maintained for the 31 days in this reporting period during which the treatment system experienced no downtime.

Readings of the key plant process parameters are normally recorded each work day and when remotely monitored. These readings and the HMI flow trend lines are used to monitor the system's performance and condition. Selected readings are recorded in the Daily Database which is an electronic file maintained in the monthly operating document folder.

The control and alarm systems are fully functional. The recovery well pumps and the process pumps are operated in the automatic mode and are remotely controlled and monitored.

1.1 DAILY OPERATIONS SUMMARY REPORTS

The GWTS's daily operations and maintenance activities, project tasks, and observations during this period are briefly described in the Daily Operations Summary Report (DOSR). The DOSR is based in part on the treatment system's daily operating worksheets and logs which include:

Daily Operating Log – flow readings (Form-01)
Daily Process Data Sheet – point process readings (Form-30)
Daily Safety and Site Inspection – plant condition checklist (Form-02)
Daily Plant Activity Notes – plant manager's daily summary (Form-03)
Employee Sign-In Sheet – employee on-site hours (Form-15)
Logbook – plant operator's daily log book (CPC 5-6)
Daily Database – daily process readings (08 August 19 Database.xlsx)

1.2 SUMMARY OF MAINTENANCE ACTIVITIES

The maintenance of the treatment system, facility, and associated equipment is performed in accordance with the site GWTS O&M Manual.

The maintenance, operation, and inspection of the plant incorporates the equipment manufacturers' recommendations, operations experience, and good engineering and maintenance practices. A detailed accounting of the August activities is further provided in the plant operator's daily log book.

Maintenance and project activities completed during August included:

- Routine and general maintenance tasks conducted at the plant, on the grounds and in the well fields.
- The valve influent to Basin 33 was adjusted as necessary to match the golf course usage and needs.
- Overgrown vegetation was cleared from around the valve influent to Basin 33 and from around the treatment plant curb.
- The annual 90-Minute Power Test for the emergency lighting systems was conducted.
- The dial-out panel was removed from the OU5 fire alarm system.
- Both OU5 fire alarm panels were cleaned of dust, dirt and corrosion. Batteries were replaced in both OU5 fire alarm panels. The different zones were labeled on the panels.
- The lab emergency light battery was refilled and recharged.
- The ASF pumps were manually rotated several times.
- The shop bench vise was repaired and reseated.
- The chest freezer was defrosted.
- A sump pump was rewired.
- The process equipment function tests were completed.
- The in-house truck inspection was completed.
- The seal drain for PFF P1 was cleared and the pump seal on PFF P1 was tightened.
- The Passive Diffusion Bags (PDBs) were removed from 11 monitoring wells to allow for Town of Oyster Bay (TOB) quarterly sampling event. The PDBs were re-installed after the sampling was completed.
- The additional BP well clusters were located. The locks on 3 of 6 wells were opened by NCDPW.
- The OU5 comprehensive site and safety inspections were completed.
- The fuel line was replaced on the string trimmer.
- Miscellaneous maintenance tasks were conducted at OU-4 including recording the utility meter readings and inspections of the facility, grounds, and well fields.
- Several contractors visited the OU-4 facility in order to provide bids on demolishing the structure and associated equipment.
- The OU4 comprehensive site and safety inspection was conducted on 8/21.

1.3 MAINTENANCE LOGS

The following operating logbooks are currently in use and maintained at OU-5:

- CL-43 Field Support Log
- CL-47 Misc. Projects Field Notebook (PET)
- CPC 5-4 Project Support Log Book (site)
- CPC 5-7 Site Supervisor's Daily Log Book (PET)

The completed log books associated with the project (with the exception of books CPC-1 and 6) have been scanned, are in storage at OU-5, and are available for review.

2 TECHNICAL SUPPORT ACTIVITIES

2.1 HDR Personnel

- HDR maintained the plant throughout the period.
- Various personnel at the Mahwah, New York, and Newark offices remotely provided oversight, guidance and technical expertise for the project.
- 8/6, Yash Saha was in to visit OU4 and well fields.
- 8/15, John Ifkovits and Brian Montroy were in to survey the area S-SE of the containment system.
- 8/21, Stan Pauwels was in to inspect the recharge basins.

2.2 NYSDEC Personnel, sub-contractors and other visitors

- 8/6, Ed Looney and Marston C, Beam Enterprises, visited the OU4 site to bid on the demolition project
- 8/7, PSEG-LI was in to read the OU4 electric meter
- 8/8, Joe Cline, AMG Demolition, visited the OU4 site to bid on the demolition project
- 8/12, BK Fire was in to inspect the OU4 sprinkler system
- 8/16, Keith Robbins, Dverka & Bartelucci, was in to pick up the well keys and returned them on 8/28.
- 8/21, Tracy Kamm, BK Fire was in to look at the OU5 smoke detector and fire alarm panels
- 8/23, Valerie Egan, NCDPW, was in to unlock the BP well clusters
- 8/27, Sean Driscole and Bob McGhan, BK Fire, were in to test the OU5 fire alarm system
- 8/30, Dan Rivers of Planet waste visited the OU4 site to bid on the demolition project
- 8/30, Reno Rotondo of Metro wrecking visited the OU4 site to bid on the demolition project

2.3 Deliveries

- 8/5, UPS delivered the MMC order
- 8/7, TA-NY delivered the sample bottle order
- 8/7, UPS delivered part of EON PDB order and returned 8/8 with the remainder
- 8/20, UPS delivered the EON PDB order (BP wells)
- 8/28, Fed Ex delivered the Hanna order
- 8/29, UPS delivered the EON tether order.

3 HEALTH AND SAFETY

Work at the Claremont GWTS OU5 was conducted in accordance with the approved Site Safety and Health Plan (SSHP). Safety related activities during this period included:

- Daily site safety inspections were completed as part of the routine O&M activities.
- The OU4 comprehensive site and safety inspection was completed with nothing new to note.

- The OU5 comprehensive site and safety inspections were completed with nothing new to note.
- The annual 90-minute Power Test was conducted on the emergency lighting system. As expected, the emergency lights in the plant failed, while the exit lights and office emergency lighting passed. It is planned to replace the intrinsically safe units in the plant with units from OU4.
- Other issues regarding the OFPC inspection violations are being addressed (fire alarm panel faults, central monitoring, etc.).

There were no other safety issues of note in August.

4 PLANNED ACTIVITIES AND SCHEDULES

The evaluation of the plant operating system and equipment is ongoing. A list in the form of corrective actions or maintenance tasks has been generated as is a monthly system status report. These reports are updated as needed and reviewed at least monthly. Both are electronically filed. The corrective action list is included at the end of the text of this report as Table 6 – Claremont Corrective Action Summary.

Upcoming tasks include:

- The quarterly recording of the monitoring well system groundwater levels is scheduled for 9/12.
- The Quarterly GW sampling task is scheduled for 9/16 and 9/17.
- The September plant discharge (PD) samples are scheduled for 9/26.
- The samples for the additional BP wells is scheduled for 9/26.

5 MONITORING WELL WATER ELEVATIONS

The monitoring well system's groundwater level elevation data table was updated after June's GW sampling event. This database is available for review. The next synoptic water level round is scheduled for September 12, prior to the quarterly groundwater sampling task.

6 TREATMENT SYSTEM FLOWS

The volume of treated water discharged by the treatment plant to the selected infiltration basin is generally determined daily from readings of the plant effluent flow meter output. During the August period, the HMI readings were recorded. The plant continued to operate in the auto mode. There was no downtime to the system's operations this period.

The total volume of treated water discharged from 0730 hours on August 1, to 0730 hours on September 1, was ~30,782,000 gallons. The data in Table 1 shows recent historic flows discharged from the plant.

A graphic representation of the system's daily plant discharge output is provided in Figure 1 and the daily plant totalizer readings for August are provided in Table 4, both following the text of this

report.

Table 1 – Flow Average and Volume Discharged

Month	Flow Average (gpm)	Average Volume Discharged per day (gal)
October ‘16	618	889,903
November ‘16	491	707,567
December ‘16	442	636,516
January ‘17	436	628,484
February ‘17	561	807,929
March ‘17	565	814,097
April ‘17	603	867,733
May ‘17	575	827,323
June ‘17	569	820,033
July ‘17	637	916,903
August ‘17	642	924,129
September ‘17	624	899,233
October ‘17	532	765,700
November ‘17	154	221,704
December ‘17	96	138,839
January ‘18	0.4	581
February ‘18	538 (while operating)	224,455 (for days online)
March ‘18	641 (while operating)	241,778 (for days online)
April ‘18	751 (while operating)	313,000 (for days online)
May ‘18	827 (while operating	356,909 (for days online)
June ‘18	947 (9856 min. online)	444,291 (for 21 days online)
July ‘18	1,080 (15,507 min. online)	797,503 (for 21 days online)
August ‘18	922 (21,118 min. online)	846,876 (for 23 days online)
September ‘18	793 (38,439 min. online)	1,129,630 (27 days online)
October ‘18	664	956,548
November ‘18	591	851,000
December ‘18	269	387,581
January ‘19	567	816,613
February ‘19	456	657,321
March ‘19	550	791,677
April ‘19	689	991,754
May ‘19	649	926,035
June ‘19	678	976,567
July ‘19	687	988,323
August ‘19	688	992,968

Under current conditions, the PLC and the control system are stable and fully functional. Flows from the individual recovery wells are remotely read, transmitted, and totalized.

During August, the treated water was discharged directly to Recharge Basin 1 on the landfill property. The discharge to Recharge Basin 33 on Winding Road was regulated as per the needs of BSP and the water level in the basin.

The flow summary for the processes can be found in Table 5 at the end of this report.

7 CHEMICAL CONSUMPTION

The hydrochloric acid feed system is currently off line and the system is empty of acid. There are four drums of virgin HCL on site. No acid was consumed in August.

The sodium hydroxide storage system is currently not in use and the system is empty of caustic. There is no bulk sodium hydroxide on site and no caustic was consumed in August.

The sodium hypochlorite storage system is currently not in use and the system is empty of bleach. No bulk sodium hypochlorite is stored on site. No sodium hypochlorite was consumed in August.

8 WASTE DISPOSAL

Accumulated electronics waste was brought to the TOB collection site.

9 MONTHLY DISCHARGE MONITORING REPORT

The GWTS is operated under an equivalency permit from the NYSDEC. A review of the analytical results for the August plant discharge samples indicated all analyzed parameters were compliant with permit limits. These results can be seen in Table 7 following the text of this report.

The plant's water discharge permit is in the process of being renewed.

10 PENDING ISSUES AND CONSIDERATIONS

The plant generally operates in the automatic mode 24/7. The HMI and LED panels display pump status, process flows (INF, ASF, PD, RW-3, -4, and -5) and totalizer outputs. The HMI is able to data log and display flow and totalizer data and trend lines.

Inspections of the CPC property and discharge basins will continue.

Address of OPFC violations will continue as possible.

The repairs to the OU5 fire alarm open loop is to be scheduled.

The plant lights are kept on overnight because the plant lighting and emergency lighting are wired to the same circuit breaker.

The demolition of the OU4 plant is in the planning stages.

Removal and disposal of vapor phase activated carbon at OU4 is pending.

The status of key aspects of OU4 are as follows:

- The plant heat is off.
- The fire alarm panels are offline.
- The facility has been secured and monitoring continues.
- The facility is not maintained.

11 PLANT DOCUMENTS

Procedures and standard forms are written, reviewed, and revised as needed. As-built drawings are generated and updated as necessary. The activity for August included:

- Form-31, 90-Minute Power Test worksheet, was generated

12 MONITORING RESULTS

The Claremont Polychemical GWTS is monitored through the analysis of off-site laboratory analytical data and on-site field data.

12.1 Off-site Analytical Data Results

Monthly PD samples are taken for organic analysis in compliance with the NYSDEC discharge permit. Quarterly groundwater (GW) samples are taken for organic analysis, and quarterly process water (PW) samples are taken for organic, inorganic, and generic analysis. The August sampling activities included:

- The July PD data was processed and uploaded.
- The Quarterly PW field samples were collected, labeled and packaged, 8/13. The plant samples were collected, labeled and packaged, 8/14. The chrome samples were collected 8/15. The sample coolers were packed and shipped to TA-Edison, 8/15.
- On 8/29, the PDBs were returned to the 11 monitoring wells sampled by Dverka & Bartelucci for the TOB. The water levels were recorded.
- The tethers for the BP wells were measured. The PDBs were installed in the 6 wells on 8/30. The water levels were recorded.

12.2 Field Data

Plant Discharge pH and Temperature

Treatment plant effluent is monitored for pH and temperature on a weekly basis in order to obtain a monthly average in compliance with the NYSDEC discharge permit requirements. These readings are taken from the plant effluent at a controlled point with a calibrated portable meter. The plant discharge readings for August can be found below in Table 2.

Table 2 – Effluent pH and Temperature Readings

Date	pH (su)	Temp °F
8/6	6.5	62
8/12	6.7	62
8/19	6.55	64
8/27	6.5	62
August Average	**6.56**	**63**

The NYSDEC discharge permit requires the plant discharge to have an average monthly pH between 6.5 and 8.5 standard units (su). The results for this month meet this requirement. A graph showing the plant discharge's monthly average pH trend over several months is provided in Table 8 following the text of this report.

AS Tower Air Monitoring

Using a calibrated PID meter, weekly air monitoring readings are taken from the effluent air stream of the AS Tower through Port B when the treatment system is online. The August readings from the AS tower are provided in Table 3.

Table 3 – AS Tower Air Monitoring Readings

Date	Port B
8/6	0
8/12	0
8/21	0
8/27	0

There were no emissions from the Air Stripping System observed this month. No emissions have been detected since HDR began operation of the plant in October of 2016.

Other routine data collected in August included:

- The electric and water meter readings were recorded weekly.
- The plant sound levels were recorded bi-weekly.
- The electric and gas meter readings for OU4 were recorded monthly.
- The water levels in Sumps 3 and 4 were monitored.
- The recharge basins were inspected and the water levels noted.
- The differential pressure readings across the AS Tower were recorded bi-weekly.

13 PROCESS ANALYSIS and SYSTEM STATUS

The treatment system is currently operated 24/7 in automatic mode.

13.1 Extraction Processes

- The status of the pressure switches and surge protectors is observed at the HMI.
- The pump system is operated automatically and is remotely controlled and monitored. All pumps are fully functional.
- Pump flow readouts are transmitted to the plant and the totalizers for 3, 4, and 5 are fully functional.
- The A/V valve at station 16+57 remains isolated from the transmission line.
- The A/V valve at station 17+10 remains isolated from the transmission line.
- RW-1 and RW-2 are off line and periodically run for PM purposes. The flow meters are not transmitting.
- The vault heaters have been shut off and panel heaters are active.

13.2 Air Stripping Process

- The three AS feed pumps are fully functional and are operated in the auto mode off the wet well level switches. The pumps have been coded to rotate into service. The lead pump does not keep up with influent flow and therefore it does not shut off. This requires the manual rotation of the pump.
- The discharge pressure of the pump discharge is rising. This will require cleaning the screen on the next plant shut down.
- The AS tower main drain valve is not functional.
- The tower media appears clean as the pressure differential between the top and bottom ports remains relatively constant. The lower section of media has been visually inspected. Analysis of the sampling data indicates that little iron is getting into the system.
- The discharge valve for ASF P1 appears to be frozen in the open position.

13.3 Plant Discharge Process

- The three plant discharge pumps are fully functional. The pumps have been coded to automatically rotate into service.
- The control and monitoring systems are fully functional.
- The plant discharge continues to be mainly directed to Recharge Basin 1 while water flow to Basin 33 is regulated.

13.4 Other

- The Auto-dialer is fully functional.

14 GROUNDS

14.1 Plant Perimeter

- General outdoor clean-up tasks are on-going.
- The fencing and gates are secure. Some of the signage may need to be replaced or refurbished.
- Five of the outdoor building lights are out but should not impact safety or security.
- The TOB continues to maintain the grounds along the plant perimeter.

14.2 Well Field

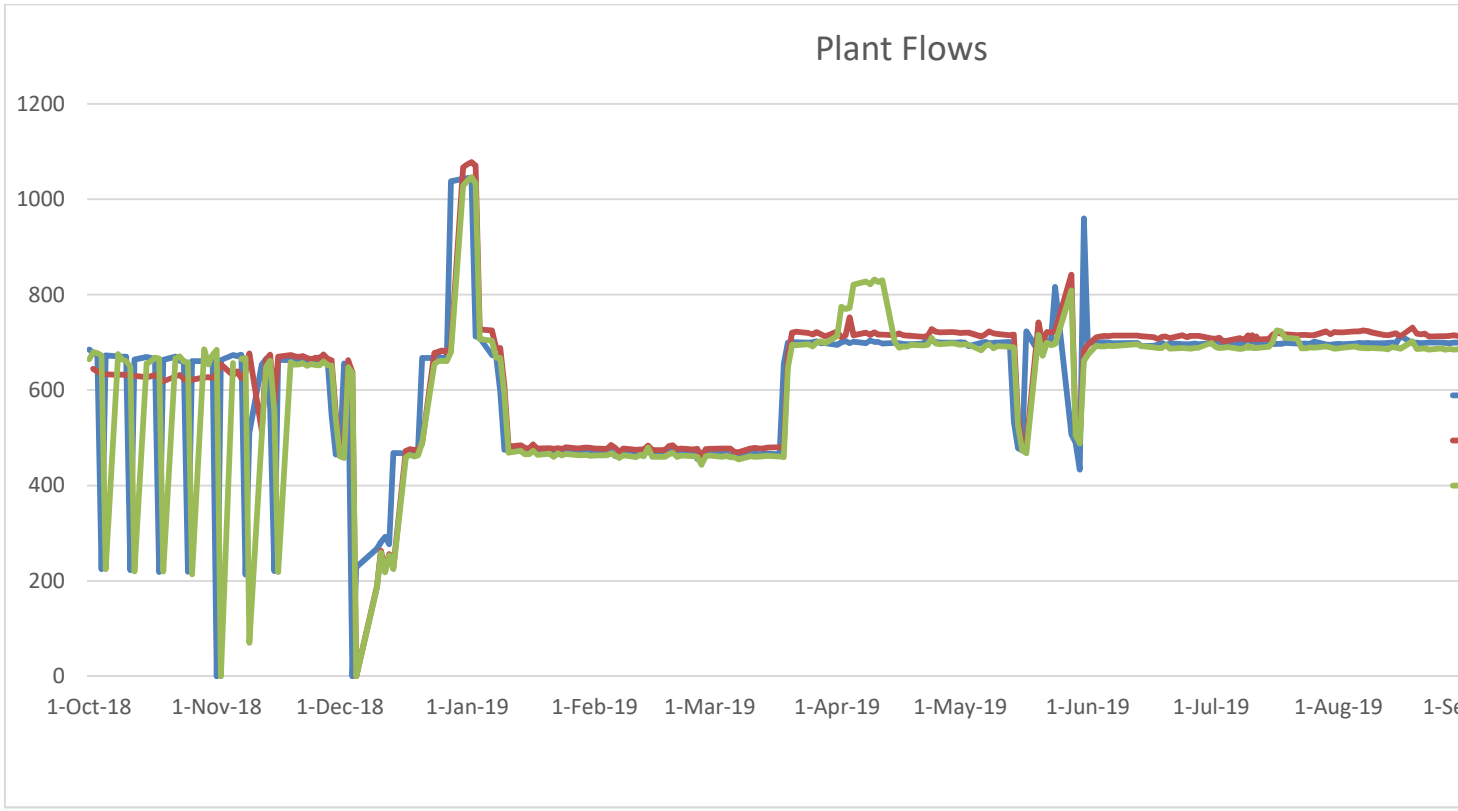
- Well, well field, and basin inspections continued. The wells and basins are secure.
- The well access paths are relatively clear, downed trees and overgrowth are removed as necessary.

14.3 Other

- The grounds continue to be inspected but not maintained at OU4.
- The Claremont site is currently accessible and there continues to be activity on the property.

FIGURES

Figure 1 – Plant Discharge Daily Flow



TABLES

Table 4 – Plant Daily Totalizer Readings

August 2019 Flows				
	Plant Influent		Plant Discharge	
Date	Volume	Avg. Flow	Volume	Avg. Flow
1-Aug-19	994000	690	982000	682
2-Aug-19	3004000	695	2969000	2062
5-Aug-19	990000	688	983000	683
6-Aug-19	1034000	718	1021000	709
7-Aug-19	1001000	695	986000	685
8-Aug-19	995000	691	980000	681
9-Aug-19	3031000	702	2983000	2072
12-Aug-19	1005000	698	988000	686
13-Aug-19	1010000	701	992000	689
14-Aug-19	988000	686	976000	678
15-Aug-19	1035000	719	1020000	708
16-Aug-19	3017000	698	2966000	2060
19-Aug-19	1001000	695	985000	684
20-Aug-19	1026000	713	1007000	699
21-Aug-19	1006000	699	988000	686
22-Aug-19	1015000	705	999000	694
23-Aug-19	3001000	695	2942000	2043
26-Aug-19	1019000	708	1001000	695
27-Aug-19	1012000	703	991000	688
28-Aug-19	984000	683	966000	671
29-Aug-19	1007000	699	988000	686
30-Aug-19	2112000	733	2069000	1437
Aug Total Plant **Influent** (Gal)				31,287,000
Aug Total Plant **Effluent** (Gal)				30,782,000

Table 5 – Pump System Flow Readings

August	On-Time Minutes (actual)	Avg. Flow (gpm)	Avg. Flow (gpd) (over 31 days)	Total Flow (gal)
RW-1	8	218	-	1744
RW-2	7	239	-	1673
RW-3	44758	271	391,871	12,148,000
RW-4	44758	241	347,258	10,765,000
RW-5	44758	210	309,677	9,414,000
Plant Influent	44758	699	1,009,258	31,287,000
Plant Effluent	44758	688	992,968	30,782,000

The treatment process was online 31 days in August. Flows are taken from the HMI meter readings. There was no downtime

Table 6 – Claremont Corrective Actions Summary

Conditions of note and corrective actions planned 9/3/19

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
Plant heaters UH-1 and UH-2 are not working	UH-2 - needs a timer relay and wiring repairs at the unit. UH-1 – needs a transformer. It should be noted that the heating system AH-2 is adequate to heat the process area. ***No further action is planned at this time***	Electrical and/ or plant personnel	Not needed at this time. Repairs can be made with treatment system on line.	Task may require working off ladders or elevated surface.
Explosion proof outlets in plant	Current monitoring indicates there is no methane exposure at the time of testing. Potential for future methane exposure has not been ruled out. A plan to install GFI utility outlets at selected points was proposed. Four outlets have been converted. The associated circuit breakers are labeled and generally in the off position. **It has been determined that intrinsically safe components are no longer required in the plant** ***No further action is planned at this time.***	Health and Safety staff/Plant staff	Replacement can be accomplished with plant running. Non replacement will not impact operation.	Extension cords in plant present a trip hazard. Task will require LOTO procedures.

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
The Air vent valve in the vault north of the 6th fairway has a leak	The nipple connecting the A/V valve to the RW manifold is leaking. The isolation valve has been closed and the device is out of service. The piping needs replacement **No further action has been taken**	Plant staff and contractors	None, isolation valve is functioning	Confined Space Entry
the Air vent valve in the vault east of the 6th green has a leak	The A/V valve has been isolated by the shut off valve. The device itself is leaking. The unit needs replacement or rebuilding. **No further action is planned at this time**	Plant staff and contractors	System shut down until the remedy was made	Confined space entry
NaOH Vault sump pump not actuating	System needs to be inspected A portable submersible well pump was set up in the vault sump for manual operation **No further action is planned at this time**	Plant staff Electrical support	None at this time	Oversight needed
The RW Discharge Manifold integrity is suspect	The condition of the various devices in the RW manifold vaults are suspect. **A full set of function tests should be scheduled**.	Plant staff and outside contractors	Possible shutdown	May require a CSE

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
Plant discharge Pump 2 frequently trips	Pump continues to trip. It requires manual resetting. The control panel does not indicate the status EE indicated that the motor starter contact block appears to be getting stuck. **When possible the unit will be cleaned**.	Operator and EE	Loss of redundancy. Requires P3 to be activated	None at this time
AST main drain valve does not close	Tests on the valve indicate that it does not close. This is not a problem until the tower media needs to be acid washed **This valve should be replaced**	operator	Plant will need to be shut down to change out the valve	None at this time
The piping configuration for the RW pump pressure switches, pressure gages and sample ports are corroding and unwieldy and subject to catastrophic failure	The systems at RW-5 and RW-3 have previously failed. While piping components have been replaced, the design has not been changed. The top-heavy configuration needs a re-design and re-build **Further action is to be scheduled** **Are the pressure switches required for the safety of the pumps?**	Plant operator and spotter	Each well system will be shut down during the upgrade	Confined space entries will be required. These will generally not be permit required.
RW-2 flow sensor output is no longer displaying	The flow element mechanical output is spinning and therefore is functional. The HS sending unit needs to be checked as well as the 12 volt power supply and wiring. **This work needs to be scheduled**	Electrical techs	None anticipated. The system is isolated and off line	Confined space entries may be necessary

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
New Nassau County Fire Code indicates that the sprinkler system at OU4 be centrally monitored	The fire alarm panels are off line and their viability needs to be determined. Initial investigation indicated that the panel can be powered up but it emits nuisance alarms. Further work on panels will require EE time and may not solve problem **Currently the plan is to take down the building. This will eliminate the system and the issue.**	Plant operator, EE and possible outside vender	None at this time	None at this time
The pump isolation valve at RW-5 does not fully function	While the valve partially closed, it does not fully close. The valve should be replaced **No further action is planned at this time**	Plant operator and spotter	Replacement of valve will require shutting down the manifold	Confined space work

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
NYS Fire Marshall safety inspection at OU4	The inspection revealed several action items that will need to be addressed. • Emergency lighting needs to be restored • Access paths need to be cleared • Sprinkler heads need to be replaced • Fire alarm with central station monitoring needs to be replaced Exit and emergency lighting has been restored but not power tested. Egress paths have been cleared and the sprinkler heads replaced. The fire alarm panel function and central monitoring violations are being addressed as is the roof leak **The building is to come down. No further action is planned**	Plant operator and certified contractors	None	To be determined

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
NYS Fire Marshall safety inspection at OU5	The inspection revealed several action items that will need to be addressed. • Emergency lighting needs to be restored • Access paths need to be cleared • Fire alarm with central station monitoring needs to be replaced • Items stored in mechanical room need to be removed. • Wooden shelving in mechanical room needs to be removed All the violations have been addressed with the exception of the problems with the emergency lighting charging system. **Work continues to mitigate these code violations**	Plant operator, TOB personnel	Disposition of TOB materials	Moving materials from mezzanine level
The power to the plant lights and the emergency light charging system are on the same electrical switch	Normally when the plant lights are shut off at night, it inadvertently shuts down the emergency light battery charging system. This action may have damaged the charging system **The plant lights are left on overnight. A attempt will be made to swap in a non-intrinsically safe unit to check function**	Plant operator. EE, outside contactors	In code violation	Possible emergency evacuation impact

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
The activation of the HVAC room and plant exhaust fans are connected to the methane monitoring system and not independently operated	It has not been determined how to manually start the exhaust fans without putting the facility into a methane alarm	Plant operator, EE	None	Possible problem with excessive heat of fume conditions

Other Plant Conditions of Note (no action required at this time)

- If warranted, an evaluation of the methane detection system is needed
- Air stripper air flow meter is not powered or functional. **No action is planned at this time.** Perhaps when the new control system is installed, the power to the unit can be identified and checked.
- The RW-1 flow sensor is not functional. **The unit is not in service and no further action is planned at this time**.
- The heat pump for the AH-1 HVAC system is not functioning. This system was shut down prior to October ’16 and appears inoperable. This is used for office AC. There are window units in place. **No further action is planned at this time.**

Other Ongoing Tasks

- Plant SOPs, forms, and ‘as-built’ drawings are generated as necessary.

Table 7 – Recent Plant Discharge Analytical Results

The plant discharge was last sampled August 14 and results are shown below.

Parameters	Discharge Limitations (SPDES)	Units	Results August 2019
pH (August Average)	6.5 – 8.5	SU	6.55
1,1,1-Trichloroethane	5	ug/l	U
1,1-Dichloroethane	5	ug/l	U
1,1-Dichloroethylene	5	ug/l	U
1,2- Dichloroethane	0.6	ug/l	U
Benzene	0.7	ug/l	U
Chlorobenzene	5	ug/l	U
Chloroform	7	ug/l	U
CIS 1,2-Dichloroethylene	5	ug/l	U
Ethylbenzene	5	ug/l	U
Methylene Chloride	5	ug/l	U
Tert-butyl alcohol (TBA)	Not indicated	ug/l	U
Tert-Butyl-Methyl ether (MTBA)	5	ug/l	U
Tetrachloroethylene(PCE)	5	ug/l	U
Toluene	5	ug/l	U
Trans 1,2-Dichloroethylene	5	ug/l	U
Trichloroethylene(TCE)	5	ug/l	U
Bis(2-ethylhexyl)phthalate	5	ug/l	U
Di-n-butyl phthalate	50	ug/l	U
Nitro Benzene	0.4	ug/l	U
Antimony, Total recoverable	3	ug/l	U
Arsenic, Total recoverable	50	ug/l	U
Barium, Total recoverable	2000	ug/l	88.8
Chromium, Hexavalent	100	ug/l	U
Lead, Total recoverable	50	ug/l	U
Iron, Total recoverable	600	ug/l	74.6
Manganese, Total recoverable	600	ug/l	158
Mercury	Not indicated	ug/l	U
Zinc	Not indicated	mg/l	U
Nitrogen, Total (as N)	10	mg/l	4.8
Selenium, Total recoverable	40	ug/l	U
Solids, Total Dissolved	1000	mg/l	292
Chloride Ion	NL	mg/l	119
Cyanide	Not indicated	ug/l	U
Fluoride Ion	NL	mg/l	0.043
Sulfate Ion	NL	mg/l	20.6

NS – Not sampled **J** – Estimated value **U** – Analyzed but not detected **NL** – Monitor only

Discharge limitations updates as per the water discharge permit.
Not monitored but of interest: **1, 4-Dioxane – not detected.**

Table 8 – Plant Discharge Monthly Average pH

Month	pH(su)
Aug ‘17	6.56
Sept ‘17	6.65
Oct ‘17	6.72
Nov ‘17	6.52
Dec ‘17	6.74
Feb ‘18	6.87
Mar’18	7.35
Apr ‘18	7.1
May ‘18	7.05
June ‘18	6.5
July ‘18	6.95
August ‘18	6.85
Sept ‘18	6.74
Oct ‘18	7.2
Nov ‘18	7.3
Dec ‘18	6.82
Jan ‘19	7.1
Feb ‘19	7.05
Mar ‘19	6.68
April ‘19	6.54
May ‘19	6.61
June ‘19	6.5
July ‘19	6.6
Aug ‘19	6.56